UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,220	03/30/2004	Aravind Yalamanchi	50277-2415	7098

42425   7590   04/13/2009
HICKMAN PALERMO TRUONG & BECKER/ORACLE
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110-1083

EXAMINER
STEVENS, ROBERT

ART UNIT	PAPER NUMBER
2162	

MAIL DATE	DELIVERY MODE
04/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/815,220	YALAMANCHI, ARAVIND
Office Action Summary	Examiner	Art Unit	
	ROBERT STEVENS	2162	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2009*.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *42-44,47-53 and 56-61* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *42-44,47-53 and 56-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
   application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *20090224*.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   The Office withdraws the previous rejections of the claims under 35 USC §103(a), in

light of the amendment. However, the Office sets forth a new specification objection and new

rejections of the claims under 35 USC §103(a), in light of the amendment.

Response to Arguments

2.   Applicant's arguments concerning the rejection of the claims under 35 USC §103(a)

appear to be primarily directed to the newly amended claim language. New rejections citing a

new reference have been set forth below to address the amended claim language, especially that

directed to persisting event data in a database. The references, taken as a whole, teach the

claimed subject matter.

It is noted that the Chakravarthy reference at page 611 in the 5th paragraph of section "4

Composite Event Detection" discusses storage of constituent event occurrences and parameters.

It is also noted that Etzion recognizes that one may store event instances in the section (col. 12

lines 2-6 referenced by Applicant at the top of page 12 of the Remarks. This passage in Etzion

states that it may be specified that events are ignored rather than saved for subsequent use. Thus,

Etzion, in fact, points to the design option of storing this data or not. Regardless, the Hellerstein

reference has been incorporated into the rejection to show that at the time of Applicant's subject

matter, it was well known to store event data in a database.

It is further noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. Also, in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom. Further, it is noted that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments.

For at least these reasons, the Office asserts the rejections of the claims as set forth below.

Specification

3.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Amended claim 42 recites the terminology "machine-implemented method" [emphasis added], however, the specification fails to provide proper antecedent support for this terminology. It is noted that a "machine" and a "computer" are different entities.

Claim Objections

4.   **Claim 42 is objected to** because of the following informalities: The connector "and"

does not appear before the last claim limitation in the amended claim. Appropriate correction is

required. See MPEP 608.01(m).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

6.   **Claims 42-44, 47-49, 51-53, 56-58 and 60-61 are rejected under 35 U.S.C. 103(a)** as

being unpatentable over S. Chakravarthy et al. ("Composite Events for Active Databases:

Semantics, Contexts and Detection", Proc. of the 20th VLDB Conf., Santiago, Chile, © 1994, pp.

606-617, pp. 42-48, hereafter referred to as "Chakravarthy") in view of Etzion et al. (US Patent

No. 6,604,093, filed Dec. 27, 1999 and issued Aug. 5, 2003, hereafter referred to as "Etzion")

and Hellerstein et al. (US Patent Application Publication No. 20020165842, filed May 4, 2001

and published Nov. 7, 2002, hereafter referred to as "Hellerstein").

Regarding independent claim 42: Chakravarthy teaches *A machine-implemented*

method for managing event-condition-action rules in a database system, the method

comprising the computer-implemented steps performed by said database system of: detecting a

first database event as an occurrence of a first one of the primitive events; (See Chakravarthy

page 611 in the 3rd paragraph under "4 Composite Event Detection" discussing the detection of a

"constituent event".) *determining whether the first database event satisfies a first sub-condition*

of said at least one condition, wherein said rule data indicates that satisfaction of said first

sub-condition is not sufficient to satisfy said at least one condition; (See Chakravarthy page

611 in the 4th and 5th paragraphs under "4 Composite Event Detection" discussing initiator-

terminator pairs and the serving of parameters used to compute the composite event.) *detecting a*

second database event as an occurrence of a second one of the primitive events; (See

Chakravarthy page 611 in the 3rd paragraph under "4 Composite Event Detection" discussing the

detection of one or more "constituent events".) *determining whether the at least one condition*

is satisfied based on the results and the second database event. (See Chakravarthy page 615

"Parameter Computation" section discussing the collection, recording and passing on of

parameters for interpretation by condition/action components.)

However, Chakravarthy does not explicitly teach the remaining limitations as claimed.

Etzion, though, discloses *rule data that defines a composite event comprised of two or more*

primitive events, at least one condition related to the composite event, and at least one action to

be performed upon satisfaction of said at least one condition; (See Etzion Abstract in the

context of Fig. 1 teaching the association of composite events, conditions and actions as situation

management rules, in the context of col. 8 lines 60-62 discussing the use of complex events.)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to apply the teachings of Etzion for the benefit of Chakravarthy, because to do so allowed a

designer to implement improved tools for responding to temporal relationships among events, as

taught by Etzion in col. 2 lines 34-40. These references were all applicable to the same field of

endeavor, i.e., composite event management.

However, Chakravarthy does not explicitly teach the remaining limitations as claimed.

Hellerstein, though, discloses ***storing, in a database managed by said database system,*** (See

Hellerstein Fig. 1 #185 showing a rule DB, it having been implied that the database was

managed.) ***persistently storing in the database results data that indicates that said first sub-***

condition was satisfied by said first database event; (See Hellerstein Fig. 1 #180 showing an

Event DB, in the context of paragraph [0041] discussing the reading of historical event data from

Event DB #180. See also, paragraph [0047] discussing the use of composite events.) ***reading***

said results data from said database; (See Hellerstein Fig. 1 #180 showing an Event DB, in the

context of paragraph [0041] discussing the reading of historical event data from Event DB #180.

See also, paragraph [0047] discussing the use of composite events.) ***data read from the database***

(See Hellerstein Fig. 1 #180 showing an Event DB, in the context of paragraph [0041] discussing

the reading of historical event data from Event DB #180. See also, paragraph [0047] discussing

the use of composite events.)

It would have been obvious to one of ordinary skill in the art at the time of the invention

to apply the teachings of Hellerstein for the benefit of Chakravarthy in view of Etzion, because

to do so enabled a designer to implement a system that provided techniques for processing

historical event data, as taught by Hellerstein in paragraph [0019]. These references were all

applicable to the same field of endeavor, i.e., composite event management.

Regarding claim 43: Chakravarthy does not explicitly teach the remaining limitations as

claimed. Etzion, though, discloses ***determining that the at least one condition is satisfied by***

determining that the second database event was detected within a particular time after

detecting the first database event. (See Etzion col. 8 lines 44-56 discussing the detection of a

threshold condition and a "life span" in which the situation/conditions must take place.)

Regarding claim 44: Chakravarthy does not explicitly teach the remaining limitations as

claimed. Etzion, though, discloses ***determining that the at least one condition is satisfied by***

determining that the second database event was not detected within a particular time after

detecting the first database event. (See Etzion col. 9 Table II at lines 30-37 discussing the

"NOT" operator. Also, see col. 11 lines 14-17 discussing an expiration time.)

Regarding claim 47: Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses ***deleting the persistently stored result from the database after a period of time indicated by the at least one condition***. (See Etzion col. 11 lines 14-17 discussing the use of an expiration time, it having been implied that when a lifespan ended that its information was no longer needed.)

Regarding claim 48: Chakravarthy teaches ***determining that the at least one condition is satisfied based on the results and the second database event;*** (See Chakravarthy page 615 "Parameter Computation" section discussing the collection, recording and passing on of parameters for interpretation by condition/action components.) ***and performing the at least one action related to the composite event.*** (See Chakravarthy page 615 in the section entitled "5.2 Support for Rules" discussing a composite event triggering rules.)

However, Chakravarthy does not explicitly teach the remaining limitations as claimed. Hellerstein, though, discloses ***data read from the database*** (See Hellerstein Fig. 1 #180 showing an Event DB, in the context of paragraph [0041] discussing the reading of historical event data from Event DB #180. See also, paragraph [0047] discussing the use of composite events.)

Regarding claim 49: Chakravarthy does not explicitly teach the remaining limitations as claimed. Etzion, though, discloses ***wherein the composite event comprised of two or more***

primitive events, the at least one condition related to the composite event, and the at least one

action are specified in an expression received by the database system, the expression

identifying two or more primitive event structures, a join condition on the two or more

primitive events, and the at least one action to perform in response to satisfying the join

condition. (See Etzion col. 11 lines 35-42 discussing the use of joint conditions.)

  Claims 51-53, 56-58 and 61 are substantially similar to claims 42-44, 47-49 and 60,

respectively, and therefore likewise rejected.

7.   **Claims 50 and 59 are rejected under 35 U.S.C. 103(a)** as being unpatentable over S.

Chakravarthy et al. ("Composite Events for Active Databases: Semantics, Contexts and

Detection", Proc. of the 20<u>th</u> VLDB Conf., Santiago, Chile, © 1994, pp. 606-617, pp. 42-48,

hereafter referred to as "Chakravarthy") in view of Etzion et al. (US Patent on No. 6,604,093,

filed Dec. 27, 1999 and issued Aug. 5 2, 2003, hereafter referred to as "Etzion"), Hellerstein et

al. (US Patent Application Publication No. 20020165842, filed May 4, 2001 and published Nov.

7, 2002, hereafter referred to as "Hellerstein") and Kumar et al. (US Patent on No. 7,149,738,

filed Dec. 16, 2002 and issued Dec. 12, 2006, hereafter referred to as "Kumar").

Regarding claim 50: Chakravarthy does not explicitly teach the remaining limitations as claimed. Kumar, though, discloses *where the expression is specified using XML- extended SQL syntax.* (See Kumar col. 11 lines 2-9 discussing the use of an XML format. See also col. 13 lines 21-37 discussing the use of a variety of expression such as SQL. It is noted that SQL was an obvious variant of XML-extended SQL.)

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of Kumar for the benefit of Chakravarthy in view of Etzion and Hellerstein, because to do so enabled a designer to implement a user-friendly mechanism for managing resources, as taught by Kumar in col. 4 lines 16-23. These references were all applicable to the same field of endeavor, i.e., composite event management.

Claim 59 is substantially similar to claim 50, and therefore likewise rejected.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

US Patent Application Publications

Pather et al	2007/0156656
Adi et al	2005/0096966
Seshadri et al	2004/0002988
Pather et al	2004/0002972
Botzer et al	2003/0204491
Mets et al	2003/0120461

US Patents

Bhide et al	7,120,635
Mets et al	7,496,591
Botzer et al	7,010,525
Hilerio et al	7,277,863
Pather et al	7,177,859
Yu et al	5,832,482

9.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

       A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Stevens whose telephone number is (571) 272-4102. The examiner can normally be reached on M-F 6:00 - 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Stevens/
Examiner
Art Unit 2162

April 11, 2009